Scientific Superpowers

Star Carlin Volcano School of Arts and Science PCS

Class: Integrated Science (4^{th}- 5^{th})

Unit: Biodiversity

Objectives: Students will be able to explain how training and experience in observing can give a person a super power (ability) to notice (observe) things.

Essential Question:

How can you learn by your senses?

How can senses give you insight?

How can self awareness of our senses give us power and leadership?

Standards Observation and inference

Materials:

- Blank paper
- Science Notebooks
- Timer
- Colored pencils, crayons, or markers, enough for students to share
- Words to describe sound

Duration:

45 to 60 minutes per session - One to four sessions.

Anticipatory Set: Think-Write-Pair Share

Write the words "Scientific Superpowers" on the board. Give students time to think about what this might mean. Then have students share with a partner about what they think it might mean. Select some students to share out with the whole group. Explain that people who are highly trained as observers have enhanced abilites to see, or hear, things that most of us do not notice.

Teacher Actions: : Prepare to study the secrets of super powered science observation! Explain that the purpose for today's lesson is to start developing our scientific super powers. Share the list of sound words and explain that these words can help us to describe what we hear. Prepare students to record what they're hearing and seeing by setting up a page in the science notebooks.

Take children outdoors if possible. Let them know that you want them to be absolutely quiet for one minute and then afterwards you will ask what it was they could hear. After the time is up ask them to compare sounds with a partner. Then ask for sharing. Thumbs up if you also heard the car drive by. etc. Try several times. Lengthen the period of silence. Ask the students to notice any improvements in their ability to hear sounds that were more faint.

Return to class. Ask the students to write about how that sort of listening is different than regular listening. What extra skills are needed in order to listen very carefully? Are there other words we should add to our list of words to describe sound? Do you think this is something you could get really good at? Why? Are you interested in developing this scientific superpower? Is their another sort of observation that you might be better at? Have them draw a picture that demonstrates someone who is observing by listening.

Check for Understanding:

You could do a parallel or alternate lesson with observing with vision. A one yard nature walk. Taking a close up look at common objects with a hand lens. Then draw what they see in their science journals.

Extension: Invite a scientist into the classroom or go to their worksite. Have them talk to the students about their ability to observe and how it has improved. Ask them to share some tricks of the trade. What must the students do to enhance their own ability when they are out in the field? Take the students outdoors and do some practice at really noticing. Have the students each make a page in a Book of Secrets for Successful Superpower Science Observing. Ask them to make the message visual so that others will have to observe, rather than read, the meaning.

Closure:

Have students share their work. Bind to make a class book. After they have finished sharing, let them know that they will soon be able to use these superpowers of observation at the Bioblitz.

Words to describe sounds		
• bang • bark • boom • bump • buzz • clap • clink • coo • crackling • crash • crunching	• cry • deafening • echoing • faint • groan • growl • gurgling • harsh	• haw • hiss • hoarse • howl • hum • hushed • husky • lapping • loud
• melodious • moan • muffled • mumble • murmur	• mutter • noisy • patter • peep • piercing • pitch • pop • purring	• quietly • raspy • reverberating • roar • rumble • rustle
• scream • screech • shriek • shrill • shloshing • shout • sigh • slam • smash • snapping • snarl	• snort • softly • splash • squawk • squeak • squeal • stamp • stomp • swish • thud • thump	• thundering • tinkle • twitter • wail • whimper • whine • whir • whisper • whistling • yell